

(19)

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11)

EP 0 987 088 A1

(12)

## EUROPEAN PATENT APPLICATION

(43) Date of publication:  
22.03.2000 Bulletin 2000/12

(51) Int Cl. 7: B26B 21/40, B26B 21/52

(21) Application number: 99302781.2

(22) Date of filing: 09.04.1999

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE  
Designated Extension States:  
AL LT LV MK RO SI

(30) Priority: 14.09.1998 US 153220

(71) Applicant: WARNER-LAMBERT COMPANY  
Morris Plains New Jersey 07950 (US)

(72) Inventors:  
• Follo, Thomas A.  
Milford, Connecticut 06460 (US)  
• Richard, Paul D.  
Shelton, Connecticut 06989 (US)

(74) Representative: Powell, Timothy John  
Eric Potter Clarkson,  
Park View House,  
58 The Ropewalk  
Nottingham NG1 5DD (GB)

### (54) Razor frame with integral weight

(57) The present invention is directed to a razor unit having a member comprising a top frame (12) with an integral weight (11). The portion of the member which acts as the integral weight is contained within the hollow shell (15, 16) of a razor handle while the top frame portion (12) protrudes beyond one end of the handle to provide a decorative cover for a razor cartridge or an attachment means for a razor cartridge. The integral member reduces the overall number of parts of the razor, reduces the assembly time and provides a stiffening member to the razor handle. Further, the integral member provides proper weight and balance to aid in obtaining a comfortable shave.

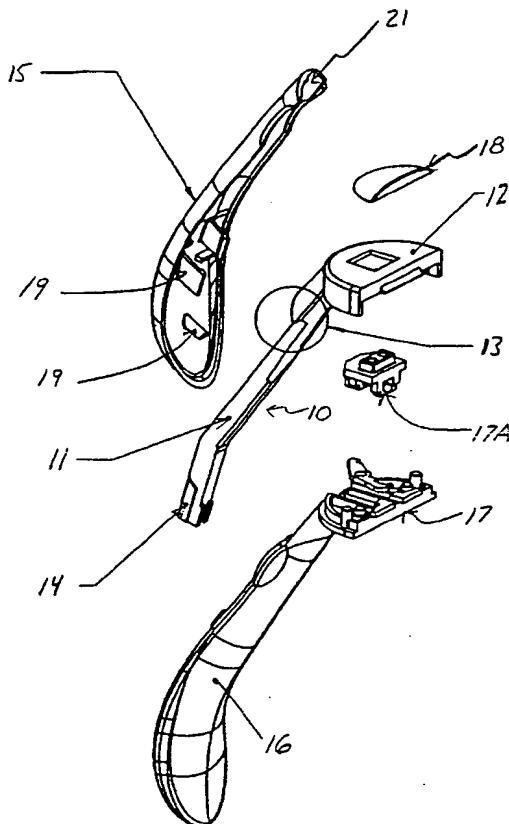


FIG 1

**Description****Background of the Invention****1. Field of the Invention**

**[0001]** This invention relates to wet shave razors and, in particular, to wet shave razors having a die cast top frame with an integral weight and stiffener.

**2. Description of Related Art**

**[0002]** Most commercially available wet shave razors consist of at least five separate components. These components include the razor head which, in the case of a permanent system is used to attach a razor cartridge and in the case of a disposable system includes the cartridge, two half shells of the handle, a weight, and a top frame which covers the razor head. During manufacturing, the two half shells are fitted together surrounding the weight and the top frame is placed such that it covers the razor head. The end result is a razor unit which requires a maximum number of parts and significant assembly, resulting in greater difficulty and expense to the razor manufacturer.

**[0003]** It would be advantageous to provide a razor assembly with a minimum of parts by integrating the top frame with the weight. The result would be to minimize the time and expense required to assemble the razor unit.

**[0004]** According to the present invention there is provided a razor system as claimed in the accompanying claims.

**[0005]** Also according to the present invention there is provided a method of manufacturing a razor system as claimed in the accompanying claims.

**[0006]** In an embodiment of the invention a razor unit has a member comprising a top frame with an integral weight. The portion of the member which acts as the integral weight is contained within the hollow shell of a razor handle while the top frame portion protrudes beyond one end of the handle to provide a decorative cover for a razor cartridge or an attachment means for a razor cartridge. The integral member reduces the overall number of parts of the razor, reduces the assembly time and provides a stiffening member to the razor handle. Further, the integral member provides proper weight and balance to aid in obtaining a comfortable shave.

**Brief Description of the Drawings**

**[0007]** **Figure 1** is an exploded view of a razor unit containing the top frame with the integral member.

**[0008]** **Figure 2** is a cut-away top view of a razor unit containing the top frame with the integral member.

**[0009]** **Figure 3** is a side cut-away view along line A-A of Figure 2.

**Detailed Description of the Preferred Embodiments**

**[0010]** Reference will now be made to the presently preferred embodiments of the invention. For the purpose of this application, wet shave razors are defined to be razors which are customarily utilized in conjunction with soap or shaving cream and hot water. The definition of wet shave razors includes both disposable razors, in which the user discards the entire unit after a certain

5 number of uses, and permanent systems, with which the user discards and replaces the razor cartridge after a certain number of uses. In both instances, the razor head, or cartridge, is the portion which surrounds and contains the blade or blades. The combination of the razor head and the handle, either permanent or disposable, is defined as the razor system.

**[0011]** The present invention provides for a wet shave razor system which comprises a razor handle consisting of an upper shell and a lower shell and a top frame having an integral weight member. As illustrated in Figures 20 1 - 3, top shell 15 and bottom shell 16 surround the integral weight member 10 in the razor system. In an alternative embodiment, the razor handle may be a hollow, one-piece unit which surrounds the integral weight

25 member. The integral weight member 10 comprises interior weight section 11 which is contained within the handle, transition section 13 (surrounded by the circle in Figures 1 and 2) which protrudes through opening 21 in the top shell and top frame 12 which extends externally beyond the end of the top shell. In the preferred embodiment illustrated, the top frame 12 comprises a decorative cover for razor attachment mechanism 17, 17A which is affixed to the end of bottom shell 16; cap 18 is optionally placed on the top frame. Attachment 30 means are provided on the top and bottom shells to allow the two shells to be tightly and permanently attached to each other. In the illustrated embodiment, snaps 19 protrude from the top shell and fit into grooves 20 in the bottom shell. In the preferred embodiment, the integral 35 weight member 10 contains snap feature 14 which allows the integral weight member to be directly affixed to either or both of the top and bottom shells.

**[0012]** In addition to providing a weight, the integral weight member 10 also acts as a stiffener in order to provide strength to and stiffen the handle so that the handle will not break or overtly bend in response to forces encountered during shaving. While the integral weight member 10 may be formed from any suitable material, preferably the integral weight member is formed from a 40 die cast material. Preferable materials for the weight member include high density plastics with a specific gravity greater than 2, zinc diecast, aluminum diecast, magnesium diecast, stainless steels, copper alloys and powdered metals. The weight of the weight member 50 may vary as desired in order to provide the proper balance and "feel" to the razor handle so that the razor provides a comfortable shave. Preferably, the weight of the weight is in the range of about seven grams to about 55

sixty grams, with a preferred weight of about thirty-five grams.

**[0013]** As set forth above, the integral weight member is preferably manufactured via a die casting process. During assembly of the razor system, the integral weight member is inserted into the razor handle, either between the two shells or within the hollow one-piece handle. In the event that two shells are utilized, the shells are permanently snapped together following the insertion of the integral weight member. Additionally, the integral weight member is also snapped to the either or both of the top and bottom shells. Simultaneously, the top frame portion is placed over and affixed to the razor attachment mechanism.

**[0014]** While there have been described what are presently believed to be the preferred embodiments of the present invention, those skilled in the art will realize that various changes and modifications may be made to the invention without departing from the spirit of the invention, and it is intended to claim all such changes and modifications as fall within the scope of the invention.

#### Claims

1. A razor system comprising a razor handle and an integral top frame and weight member.
2. A razor system according to claim 1, wherein the razor handle comprises a top shell and a bottom shell and wherein the top shell and bottom shell surround the integral top frame and weight member.
3. A razor system according to claim 2, wherein the integral top frame and weight member comprises a weight portion which is located within the top shell and the bottom shell and a top frame portion which is located external to the top shell and the bottom shell.
4. A razor system according to claim 3, wherein the bottom shell further comprises a razor cartridge attachment means and the top frame covers at least a portion of the attachment means.
5. A razor system according to claim 4, wherein the integral top frame and weight member is die cast.
6. A razor system according to claim 5, wherein the integral top frame and weight member is constructed from a material in the group consisting of high density plastics with a specific gravity greater than 2, zinc diecast, aluminum diecast, magnesium diecast, stainless steels, copper alloys and powdered metals.
7. A razor system according to claim 5, wherein the

integral top frame and weight weighs in the range of from about 7 grams to about 60 grams.

8. A razor system according to claim 4, wherein one or both of the top shell and the bottom shell contain means for attaching the top shell to the bottom shell.
9. A razor system according to claim 8, wherein the integral top frame and weight contains a means for attachment to the top shell and/or the bottom shell.
10. A razor system according to claim 5 wherein the integral top frame and weight member is positioned within the razor handle so as to stiffen the razor handle.
11. An integral top frame and weight member for a razor system comprising a weight portion structured to be contained internally within the razor system and a top frame portion structured to be exposed externally to the razor system.
12. An integral top frame and weight member according to claim 11, wherein the integral top frame and weight member is die cast.
13. An integral top frame and weight member according to claim 12, wherein the integral top frame and weight member is constructed from a material in the group consisting of high density plastics with a specific gravity greater than 2, zinc diecast, aluminum diecast, magnesium diecast, stainless steels, copper alloys and powdered metals.
14. An integral top frame and weight member according to claim 12, wherein the integral top frame and weight weighs in the range of from about 7 grams to about 60 grams.
15. A method of manufacturing a razor system comprising the steps of:
  - providing an integral top frame and weight member comprising a weight portion and a top frame portion, a razor handle member and a razor head member;
  - enclosing the weight portion of the integral top frame and weight member within a razor handle; and
  - enclosing the razor head member within the top frame portion of the integral top frame and weight member.

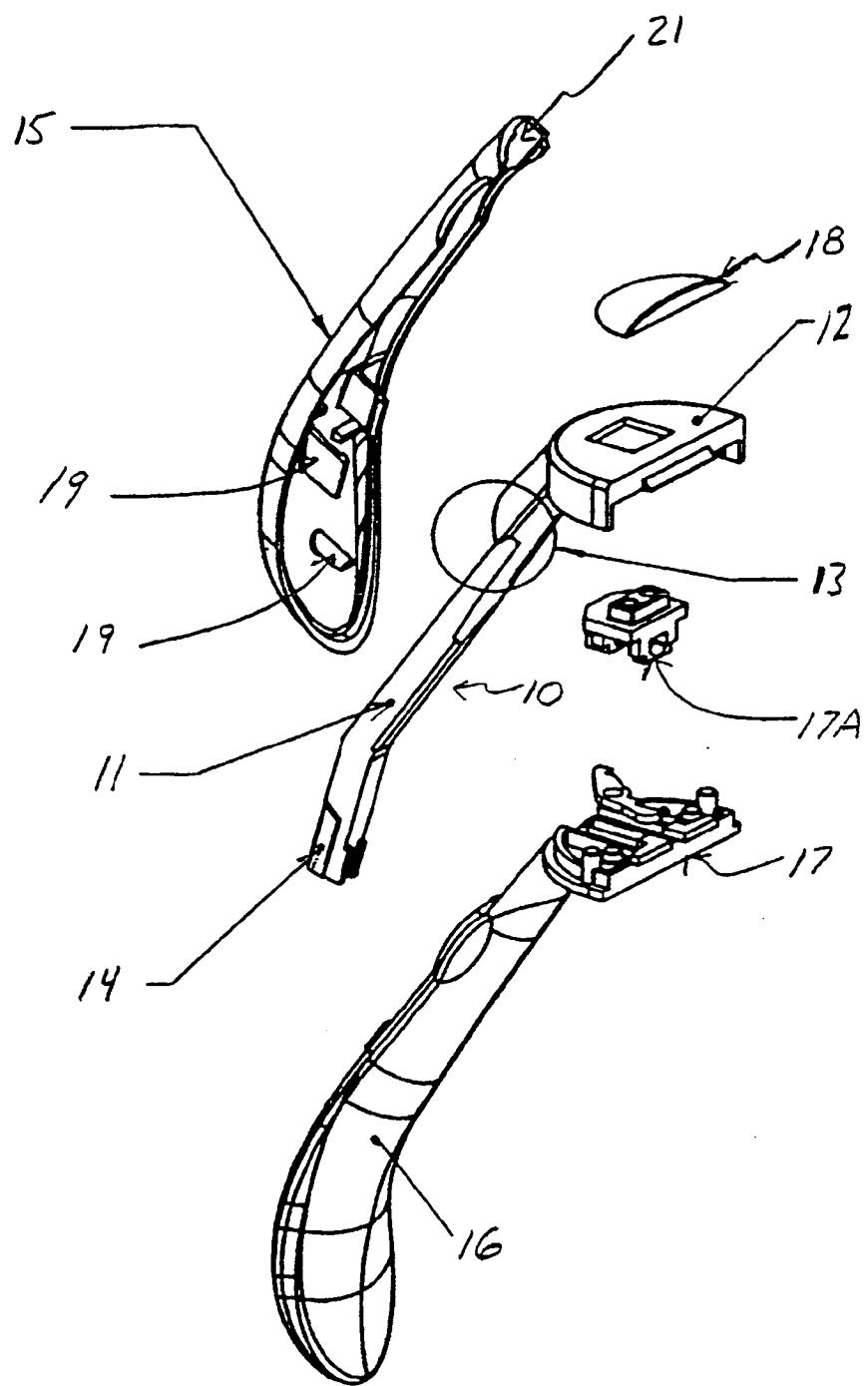


FIG 1

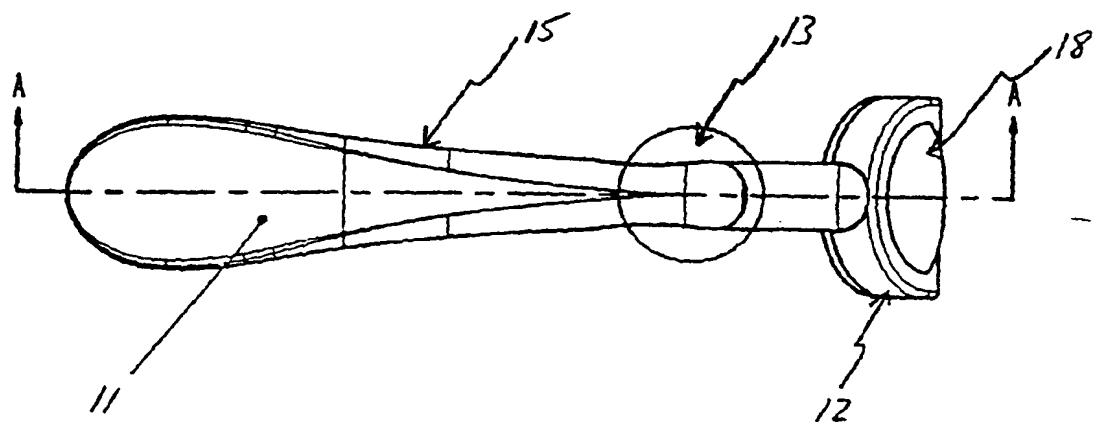


FIG. 2

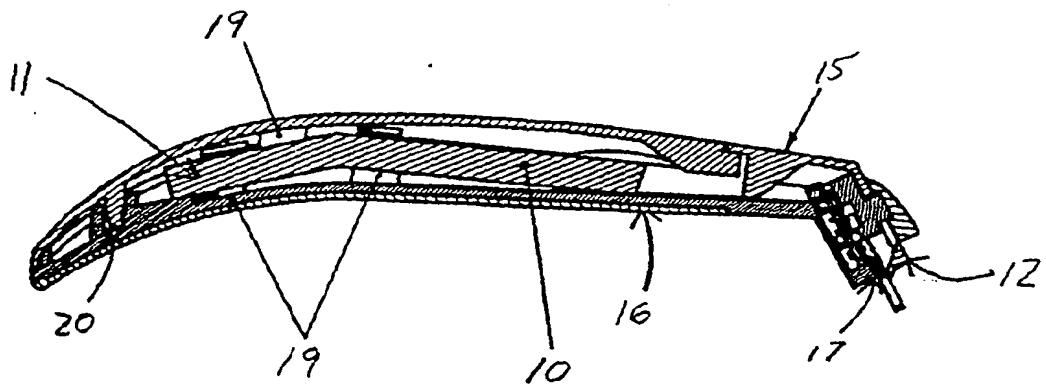


FIG. 3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 99 30 2781

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	WO 97 09155 A (WARNER LAMBERT CO) 13 March 1997 (1997-03-13) * page 6, line 20 – page 7, line 11; claims 1,12; figure 1 *	1,11,15	B26B21/40 B26B21/52
A	US 5 787 586 A (APPRILLE JR DOMENIC VINCENT ET AL) 4 August 1998 (1998-08-04) * column 5, line 26 – line 51; figures 1-3,3A *	1,11,15	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B26B
<p>The present search report has been drawn up for all claims</p>			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	16 December 1999	Herijgers, J	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 99 30 2781

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-12-1999

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9709155	A	13-03-1997	AU	6502296 A	27-03-1997
US 5787586	A	04-08-1998	AU	2443097 A	29-10-1997
			CA	2250004 A	16-10-1997
			CN	1216019 A	05-05-1999
			CZ	9803056 A	14-04-1999
			DE	29723430 U	20-08-1998
			DE	29723516 U	24-09-1998
			DE	29723518 U	17-09-1998
			EP	0894040 A	03-02-1999
			NO	984649 A	10-12-1998
			PL	329312 A	15-03-1999
			SK	138298 A	13-04-1999
			US	5890296 A	06-04-1999
			WO	9737819 A	16-10-1997
			US	5956851 A	28-09-1999
			US	5784790 A	28-07-1998
			US	5815924 A	06-10-1998
			US	5918369 A	06-07-1999
			US	5855071 A	05-01-1999
			US	5813293 A	29-09-1998
			US	5822869 A	20-10-1998

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**THIS PAGE BLANK (USPTO)**